

DM® Essentials 4K60 4:4:4 Receiver for HDMI®, RS-232, IR, and Analog Audio Extension over CATx Cable



- *Point-to-point extension of HDMI®, RS-232, IR, and analog audio signals over CAT5e or higher cable*
- *DM® Essentials transmission distance up to 130 ft (40 m) for UHD and 4K signals or up to 230 ft (70 m) for 1080p, WUXGA, and 2K signals*
- *4K60 4:4:4 capability*
- *HDR10, HDR10+, and Dolby Vision® video formats*
- *Compliance with HDCP 2.3*
- *Analog audio de-embedding*
- *S/PDIF optical digital audio input for audio return to the HD-TXCA-4KZ-101*
- *CEC (Consumer Electronics Control) pass-through capability*
- *Bidirectional RS-232 and IR pass-through capability*
- *EDID pass-through capability*
- *Compact, surface-mountable design*
- *Power from 24VDC power pack (included) or from remote DM Essentials transmitter or DMPS Essentials switcher*

The HD-RXCA-4KZ-101 is a DM® Essentials 4K60 4:4:4 receiver designed to interoperate with a DM® Essentials transmitter or DMPS Essentials switcher for the transmission of HDMI®, RS-232, IR, and analog audio signals. A CAT5e or higher twisted pair cable (Crestron [DM-CBL-8G](#) or [DM-CBL-ULTRA](#) sold separately) is needed to connect the HD-RXCA-4KZ-101 to the DM Essentials transmitter or DMPS Essentials switcher. For 1080p, WUXGA, and 2K signals, a cable length of up to 230 ft (70 m) is supported. For UHD and 4K signals, a cable length of up to 130 ft (40 m) is supported.¹

Interoperability with a DM Essentials Transmitter or DMPS Essentials Switcher

The DM Essentials input port of the HD-RXCA-4KZ-101 must be connected to a DM Essentials output port of a DM Essentials transmitter or DMPS Essentials switcher. Examples of supported DM Essentials 4K60 4:4:4 transmitters are the [HD-TXC-4KZ-101](#) and [HD-TXCA-4KZ-101](#). Supported DMPS Essentials switchers are the [HD-PS622](#), [HD-PS621](#), [HD-PS402](#), and [HD-PS401](#).

The DM Essentials input port of the HD-RXCA-4KZ-101 must be connected to a DM Essentials output port of a DM Essentials transmitter or DMPS Essentials switcher. Examples of supported DM Essentials transmitters are the [HD-TXU-4KZ-111-E](#), [HD-TXU-4KZ-111-2G](#), [HD-TXU-4KZ-211](#), [HD-TXC-4KZ-101](#), and [HD-TXCA-4KZ-101](#). Supported DMPS Essentials switchers are the [HD-PS622](#), [HD-PS621](#), [HD-PS402](#), and [HD-PS401](#).

The HD-RXCA-4KZ-101 can be configured and controlled only when it is used with a DMPS Essentials switcher. The web interface of the switcher can be used to configure the HD-RXCA-4KZ-101. In addition, control system programming and .AV Framework™ software support of the HD-RXCA-4KZ-101 is hosted by the switcher.

4K60 4:4:4 and HDR Support

The HD-RXCA-4KZ-101 supports video resolutions up to 4K60 with 4:4:4 color sampling. HDR10, HDR10+, and Dolby Vision® video formats are also supported.²

Analog Audio De-Embedding

The analog audio output port of the HD-RXCA-4KZ-101 enables 2-channel LPCM audio to be extracted from the AV signal.

S/PDIF Optical Digital Audio Return

The S/PDIF optical digital audio input of the HD-RXCA-4KZ-101 receives digital audio from a display device and transmits it over the DM Essentials connection to a HD-TXCA-4KZ-101 transmitter (sold separately). The S/PDIF optical digital audio output of the HD-TXCA-4KZ-101 then transmits the audio to an AV receiver. Supported digital audio formats are Dolby Digital®, Dolby Digital EX, DTS®, DTS ES, and LPCM up to 6 channels.

Compact, Surface-Mountable Design

Compact in design, the HD-RXCA-4KZ-101 can be mounted onto a flat surface such as a wall behind a flat-panel display or the ceiling above a projector. It can also be attached to a single rack rail in the back of an equipment cabinet. The HD-RXCA-4KZ-101 can receive power from the included power pack or from the remote DM Essentials transmitter or DMPS Essentials switcher.³

DM® Essentials 4K60 4:4:4 Receiver for HDMI®, RS-232, IR, and Analog Audio Extension over CATx Cable

Specifications

Video

Input Signal Type	DM® Essentials with HDR10, HDR10+, Dolby Vision®, Deep Color, and 4K60 4:4:4 support ²
Output Signal Type	HDMI® with HDR10, HDR10+, Dolby Vision, Deep Color, and 4K60 4:4:4 support (DVI compatible) ⁴
Copy Protection	HDCP 2.3
Resolutions	Common resolutions are listed in the following table.

Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Progressive	4096x2160 DCI 4K & 3840x2160 4K UHD	24 Hz	4:4:4	12 bit
		30 Hz	4:4:4	12 bit
		60 Hz	4:2:2	12 bit
		60 Hz	4:4:4	8 bit
	2560x1600 WQXGA	60 Hz	4:4:4	8 bit
Interlaced	1920x1080 FHD 1080p	60 Hz	4:4:4	12 bit
		1920x1080 HD 1080i	30 Hz	4:4:4

NOTE: The maximum supported resolution is 4K60 with 4:4:4 color sampling. Custom resolutions are supported at pixel clock rates up to 600 MHz.

Audio

Input Signal Type	DM Essentials, digital S/PDIF optical (TOSLINK® connector)
Output Signal Type	HDMI, analog stereo
Digital Formats, HDMI	Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby® TrueHD, Dolby Atmos®, DTS®, DTS ES, DTS 96/24, DTS HD® High Res, DTS-HD Master Audio, DTS:X®, LPCM up to 8 channels
Digital Formats, S/PDIF	Dolby Digital, Dolby Digital EX, DTS, DTS-ES, LPCM up to 6 channels
Analog Format	Stereo 2-channel
Digital-to-Analog Conversion	24-bit 48 kHz

Analog Performance	Frequency Response: 20 Hz to 20 kHz ±0.5 dB; S/N Ratio: >95 dB 20 Hz to 20 kHz A-weighted; THD+N: <0.005% @ 1 kHz; Stereo Separation: ≤80 dB
---------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------

Communications

HDMI	HDCP 2.3, EDID, CEC pass-through
DM Essentials	HDCP 2.3, EDID pass-through
RS-232	2-way serial pass-through up to 115.2k baud (TD/RD only)
IR	Bidirectional IR signal pass-through up to 60 kHz

Connectors

IR IN/OUT	(1) 4-pin 3.5 mm detachable terminal block; Comprised of (1) IR input port and (1) IR output port; IR IN is for connection from a Crestron IR control port or other IR signal source and passes the IR input signal to the IR OUT port on the DM Essentials transmitter; IR OUT is for connection to an IR emitter (IRP2 , sold separately) and transmits the IR signal from the IR IN port on the DM Essentials transmitter; Supports IR up to 60 kHz
COM	(1) 3-pin 3.5 mm detachable terminal block; Bidirectional RS-232 port; Passes RS-232 TD/RD data to/from the COM port on a DM Essentials transmitter; Supports up to 115.2k baud
HDMI OUT	(1) HDMI Type A connector, female; HDMI digital video/audio output; DVI compatible ⁴
DM IN	(1) 8-pin RJ-45 yellow connector, female, shielded; DM Essentials input port for connection to the DM Essentials output port of a DM Essentials transmitter or DMPS Essentials switcher ¹
24V 1.25A	(1) 2.1 x 5.5 mm DC power connector; 24VDC power input; PW-2420RU power pack included ³
OPTICAL IN	(1) JIS F05 female (TOSLINK) optical fiber connector; S/PDIF optical digital audio input

DM® Essentials 4K60 4:4:4 Receiver for HDMI®, RS-232, IR, and Analog Audio Extension over CATx Cable

AUDIO OUT	(1) 5-pin 3.5 mm detachable terminal block; Balanced/unbalanced stereo line-level audio output; Output Impedance: 200 Ohms balanced, 100 Ohms unbalanced; Maximum Output Level: 4 Vrms balanced, 2 Vrms unbalanced
Ground	(1) Chassis ground lug

Controls and Indicators

LINK	(1) Green LED, indicates that a DM Essentials link is established.
PWR	(1) LED, indicates that power is being applied to the device. Amber indicates that the device is booting. Green indicates that the device is operational.
HDMI OUT	(1) Green LED, indicates that the device is transmitting an HDMI signal
DM IN	(2) LEDs on RJ 45 connector. Green indicates that a DM Essentials link is established. Flashing amber indicates non-HDCP video, and solid amber indicates HDCP video.

Power

Power Pack (Included)	Input: 100-240VAC Output: 24VDC 2.5A Model: PW-2420RU ³
------------------------------	------------------------------------------------------------------------------------------

Environmental

Temperature	32° to 104°F (0° to 40°C)
Humidity	20% to 90% RH (non-condensing)

Enclosure

Chassis	Metal, black finish, vented sides, 2 mounting brackets included
Mounting	Freestanding, surface mountable, or attachment to a single rack rail

Dimensions

Height	4.13 in. (105 mm)
Width	4.18 in. (106 mm)
Depth	1.08 in. (27 mm)

Weight

11.92 oz (338 g)

Compliance

Regulatory Model: M202047002

Intertek® Listed for US and Canada, CE, IC, FCC Part 15 Class B digital device

To search for product certificates, refer to support.crestron.com/app/certificates.

Model

HD-RXCA-4KZ-101

DM® Essentials 4K60 4:4:4 Receiver for HDMI®, RS-232, IR, and Analog Audio Extension over CATx Cable

Included Accessories

PW-2420RU
Desktop Power Pack, 24VDC, 2.5A, 2.1 mm

Available Accessories

For a list of available accessories, visit the [HD-RXCA-4KZ-101](#) product page.

DM® Essentials 4K60 4:4:4 Receiver for HDMI®, RS-232, IR, and Analog Audio Extension over CATx Cable

Notes:

1. For DM Essentials connections, use Crestron [DM-CBL-8G](#), Crestron [DM-CBL-ULTRA](#), or third-party CAT5e or higher cable. For information about the maximum transmission distance for each cable type, refer to [Online Help Answer ID 1001567](#).

To safeguard against unpredictable environmental electrical noise that may impact performance at resolutions above 1080p, shielded cable and connectors are recommended for all applications and are required when bundling multiple cables in a wire run. Cables are sold separately.

2. 4K60 4:4:4 performance and HDR support require the use of HDMI cables and couplers with a minimum TMDS bandwidth of 18 Gbps. If 4K60 4:2:0 or 4K30 4:4:4 performance is acceptable, cables and couplers with a minimum bandwidth of 10.2 Gbps may be used. Bandwidth loss is cumulative; therefore, performance may be reduced when inserting multiple cables and couplers inline.
3. When a surface-mountable DM Essentials receiver is paired with a surface-mountable DM Essentials transmitter, either the power pack included with the receiver or the transmitter can be used to power both devices. A power pack must not be connected to both devices simultaneously.

When a surface-mountable DM Essentials receiver is paired with a wall plate DM Essentials transmitter, the power pack included with the receiver must be used to power both devices.

When a DM Essentials receiver is paired with an HD-PS622, HD-PS621, HD-PS402, or HD-PS401 DMPS Essentials switcher, the switcher provides power to the DM Essentials receiver. The DM Essentials receiver must not be connected to the included power pack.

4. The HDMI output requires an appropriate adapter or interface cable to accommodate a DVI signal. [CBL-HD-DVI](#) interface cables are sold separately.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or contact us for additional information by visiting www.crestron.com/contact/our-locations for your local contact.

This product is covered under the Crestron standard limited warranty. Refer to www.crestron.com/warranty for full details.

The specific patents that cover Crestron products are listed online at patents.crestron.com.

Certain Crestron products contain open-source software. For specific information, please visit www.crestron.com/opensource.

Crestron, the Crestron logo, .AV Framework, and DM are either trademarks or registered trademarks of Crestron Electronics, Inc. in the United States and/or other countries. Dolby, Dolby Atmos, Dolby Digital, and Dolby Vision are either trademarks or registered trademarks of Dolby Laboratories in the United States and/or other countries. DTS, DTS HD, and DTS:X are either trademarks or registered trademarks of DTS, Inc. in the United States and/or other countries. Intertek and the Intertek logo are either trademarks or registered trademarks of Intertek Group in the United States and/or other countries. TOSLINK is either a trademark or registered trademark of Toshiba Electronics Devices & Storage Corporation in the United States and/or other countries. Other trademarks, registered trademarks, and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Crestron disclaims any proprietary interest in the marks and names of others. Crestron is not responsible for errors in typography or photography.

HDMI

Specifications are subject to change without notice.

©2024 Crestron Electronics, Inc.

Rev 08/22/24

Crestron Electronics Inc.

15 Volvo Drive | Rockleigh, NJ 07647
www.crestron.com | 800.237.2041



HD-RXCA-4KZ-101



DM® Essentials 4K60 4:4:4 Receiver for HDMI®, RS-232, IR, and Analog Audio Extension over CATx Cable

